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## Taxonomic Notes on Various Species of Musaceae,

Marcgraviaceae, Guttiferae, and Solanaceae

o f C o l o m b i a

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Until a synoptical flora of Colombia is published it will continue to be difficult to determine collections from this rich Andean area. Several papers dealing with miscellaneous undescribed species or notable range extensions have been published in widely scattered journals on two continents by Cuatrecasas (1946), Dugand (1948), Hermann (1948), Hodge (1947), Little (1948), and Schultes (1949) and the present notes supplement these various papers. The collections reported on here were made mostly during my field work as Botanist with the Cinchona Division of the Foreign Economic Administration in Colombia during 1944-45. The prime set of collections is preserved at the United States National Arboretum Herbarium, Beltsville, Maryland (USNA); the second set, at the Instituto de Ciencias Naturales, Bogota, Colombia (coL); and a third set, on deposit at Tulane University, New Orleans (No). Duplicates of several families or genera have been studied by specialists and records based on my collections have been published by some of them. Thus the Labiateae have been studied and reported on by Dr. Carl Epling (1951); Campanulaceae, by Dr. Rogers McVaugh (1949); Piperaceae, By Dr. T. G. Yuncker in William Trelease and T. G. Yuncker (1950), and Gentianaceae (in part) and *Spigelia*, by myself (1947, 1948). I am grateful to E. P. Killip, who studied the Passifloraceae, Urticaceae, Leguminosae, and the genus *Cordia*, for many courtesies extended to me during my residence in Washington.

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## MUSACEAE

*Heliconia rostrata* R. and P.

Common species scattered all along the borders of the selva between Rio Chipayacu and finca Pedrogoso en route to Puerto Asis, c. 700 m., Comisaria of Putumayo, 10 January 1945, Ewan 16741 (USNA, COL, NO). Inflorescence pendent, the bracts rich coral-red at the base, diagonal with light green color at the distal end, forming a striking variegated pattern in the field.

*Heliconia velligera* Poepp.

Infrequent between the Rio Chipayacu and finca Pedrogoso, en route to Puerto Asis, 700 m., Comisaria of Putumayo, Colombia, 10 January 19459 Ewan 16736 (USNA, COL, NO). First herbarium record for Colombia. The leaves are pendent, conspicuously maroon red, greening in age; flowers borne about two meters above the ground, the bracts dark brownish red, very hirsute, the whole inflorescence measuring about one meter long.

## MARCGRAVIACEAE

*Marcgravia fosbergiana* sp. nov.

Subscandent shrub, stems 5-8 m. long, finely puberulent near the inflorescence, subglabrous below, indistinctly trigonous; leaves very conspicuous, oriented on the stem in a ladder-like arrangement, subsessile, the blades ovate-oblong, cuspidate, short cuneate at the base, glossy green, 11-13 cm. long, 4.0-4.5 cm. wide, the veins obscure, midrib prominent beneath, the hypophylloous glands (or hydathodes) minute but distinct 2-3 mm. apart in a single row parallel to the margin; inflorescence umbelliform, about 9 cm. wide, short-pedunculate, the distal leaves only a little reduced; central bracts (or nectaries) 3 or 4, long-tubular, shaped like a small pestle, 22-26 mm. long, borne within the orbit of the inflorescence on short pedicels each 5-7 mm. long; flowers borne erect on the pedicels 25-30 mm. long, these lightly tuberculate distally, the bracteoles sepaloid, the sepals proper suborbicular, 3-4 mm. long, 5 mm. wide; corolla calytriform, cylindrical-conical, barely acute, 10-11 mm. long, 5 mm. in diameter, circumscissile; stamens 28-32, with equal or subequal filiform flattened filaments and uniformly linear anthers 4 mm. long; ovary inverse pyriform with a short subconical style, the whole 6 mm. long.

Frutex subscandens, ramuli puberulentii atque inferiore sublaeve, 5-8 m. longi, indistincti tetragoni. Folia conspicua, subsessilis. Lamina ovata-oblonga, cuspidata, breve cuneata ad basim; nervis principalibus distinctis, nervis secundariis obscuris; supra prospectu nitens, nervis inconspicuis, 11-13 cm. longa, 4.0-4.5 cm. lata. Hydathodea minuta sed distincta uniseriata parallelibus ad margine. Inflorescentiae umbelliformes, ca. 9 cm. lata, breve pedunculatae, non quam folia multo longiores; pedicelli 30-35, obscure tuberculati ad apicem atque 25-30 mm. longis. Bractea nectariferis 3 vel 4, clavata vel cylindracea, 22-26 mm. longa, 5 mm. in diametro pedicellis brevis, 5-7 mm. longis. Flores erecti; bracteolae parvae sepaloidae; sepala suborbicularis, 3-4 mm. longa, 5 mm. lata. Corolla calyptriforma cylindraceo-conica, subacuta, 10-11 mm. longa, 5 mm. lata, decidua ad basim in modo .calyptre. Stamina multa, 28-32, filamentis aequalis vel subaequalis atque antheris linearis subsagittatis, 4 mm. longis. Ovarium immaturam inverse pyriforme apicem versus in stylum indeterminatum, 6 mm. longum. Fructus adhuc ignotus.

Type from edge of potrero, Rio San Juan at pueblo of San Antonio, 1370 m. ele., Dept. of Nariño, Colombia, 3 September 1944, Joseph A. Ewan 16053 (usNA; isotypes, COL, NO).

*Marcgravia* is a genus of about forty-five species of epiphytic climbing shrubs with dimorphous branches and leaves. The creeping sterile branches, with small thin sessile rotund leaves, cling to tree trunks and rocks and are generally overlooked by collectors. Gilg and Werdermann report (1925) five species of *Marcgravia* from Colombia, viz., *M. brownei* Kr. and Urban, *M. myriostigma* Tr. and Pl., *M. caudata* Tr. and Pl., *M. nervosa* Tr. and Pl., and *M. polyantha* Delp. *Marcgravia fosbergiana*, known only from the fertile branches, is related to *M. macrophylla* (Wittm.) Gilg of Peru, but differs in having the leaves longer (11-13 cm. long; less than 8 cm. long in *M. macrophylla*). *Marcgravia flagellaris* Poepp. of the Amazon basin is said to have the raceme few-flowered, otherwise it is apparently related to *M. macrophylla* and *M. fosbergiana*, though *M. flagellaris* and *M. macrophylla* are placed in different sections of the genus by Gilg and Werdermann. Poeppig 2026 should be re-examined at Geneva in this connection. *Marcgravia fosbergiana* evidently has the largest leaves of any of the Colombian species.

This *Marcgravia* is dedicated to Dr. Francis Raymond Fosberg, Senior Botanist of the Cinchona Division, alert student of the Andean flora, field companion and warm personal friend in California, Colombia, and Virginia. Long an enthusiast for tropical floras, and an authority on those of the South

Pacific, Fosberg was responsible more than any other single person for the success of the field exploration program carried out by the field botanists employed by the Foreign Economic Administration, Cinchona Division, during the Second World War. Though the feverish efforts to get quinine to the South Pacific Theatre for the prosecution of the war is now history, hundreds of plant collections made by Fosberg's *quineros* in the northern Andes will engage plant taxonomists for many decades, and constitute a valuable permanent contribution to our herbaria.

## GUTTIFERAE

**Caraipa colombiana sp. nov.**

Large tree; ultimate flowering branchlets terete, merely finely puberulent; leaves shortly petiolate, the petioles 10-12 mm. long, the blades lance-oblong, shortly acuminate, 15-20 cm. long, 6-7 cm. wide, glabrous and shining above, finely reticulate-veined, dull, glabrous beneath, the midrib and secondary veins prominent; panicle terminal, ample, pyramidal, much-branched, 15-18 cm. across, leafy with reduced ordinary foliage leaves among the flowers, the rachis and pedicels finely pubescent; flowers rather showy, the bracts 5, deltoid, barely acute; sepals ovate, unequal, 5-7 mm. long, the outer surface of the bracts and sepals microscopically tomentulose; petals obovate, 10-12 mm. long, white, with a median band of stellate tomentum on the back; stamens very numerous, unequal, rather weakly fascicled, mostly 4-7 mm. long, the filaments subglabrous; capsule asymmetrically subglobose trigonous, 18 mm. wide in the greatest diameter, subglabrous, the apex mucronate; seeds ovate, about 10 mm. long, dark green, the margin thin, wing-like.

Arbor magna. Ramuli tereti, vix puberulenti. Folia breve petiolata; petiolus 10-12 mm. longus. Lamina lanceo-oblonga, breve acuminata, 15-20 cm. longa, 6-7 cm. lata, supra prospectu glabra atque nitens, nervis principalibus moderate conspicuis, reticulo manifesto; subtus pallidiora sed glabra, nervis principiis prominentibus. Panicula terminalis, ampla, pyramidalis atque ramosa, foliolosa. Flores subspeciosae; bracteae quinque, deltoideae, vix acutae. Sepala ovata, inaequalis 5-7 mm. longa, extus tomentulosa, intus glabra. Petala obovata, 10-12 mm. longa, alba, extus glabris vel ad medium dense stellato-tomentulosis. Stamina valde numerosa, inaequalis, plusminusve 4-7 mm. longa; filamentis subglabris. Capsula trigona, subglobosa atque asymmetrica subglabra, vix mucronata. Semina ovata, ca. 10 mm. longa, indistincte alata.

Type from region del Sarare, Hoya del rio Cubugon, vertientes d'El Carano, 500-700 m. alt., Cordillera Oriental, Dept. Norte de Santander, November, 1941, *J. Cuatrecasas* 13335 (us 1851262).

Of the some 35 species of *Caripa* known from Brazil and the Guianas *C. colombiana* is most closely related to *C. palustris* and *C. calophylla*, but is remarkable in the genus for the rather showy flowers borne in an ample terminal panicle.

*Clusia myrsinoides* sp. nov.

Small tree, branches slender, weakly tetragonal; leaves tufted at ends of the branchlets, small petiolate, the petioles 3-4 mm. long, the blades obovate, cuneate, obtuse at the apices, 4.5-5.5 cm. long, 2.0-2.5 cm. wide, amphiglabrous, shining on both surfaces, coriaceous, the veins distinct but not prominent, not elevated; flowers few, 5-6 in small open panicle, terminal, the pedicels short, slightly curving; bracts 2, at the base of the flowers, deltoid-hemispherical, 1 mm. long; calyx globose, the lobes suborbicular or broadly ovate, 4-5 mm. long, 4 mm. wide, very finely puberulent or subsericeous on the outside, the margins hyaline; petals 4, pale yellow, drying reddish, rotund, rounded at apex, 6 mm. long, 5 mm. wide, glabrous and shining, very finely veined; stamens 6-10 in simple disc about 1 mm. wide, each 2 mm. long, the filaments free, minutely tomentose, anthers clavate-oblong, 1 mm. long; pistillate flowers unknown.

Arbor parva. Ramuli tenui, obscure tetragoni. Folia fasciculata plerumque ad apicem ramulorum, parva, petiolata, coriacea. Petiolus angustus, 3-4 mm. longus. Lamina obovata, apice obtusa, 4.5-5.5 cm. longa, 2.0-2.5 cm. lata, amphiglabra, vitrea, basi cuneata; nervis obscuris sed distinctis. Flores staminiferi paucis, 5-6; paniculae parvae, apparerter divaricatae, patentae et terminales. Pedicelli brevi, subarcuati; bracteae duo, parvae, deltoideo-hemisphericae, 1 mm. longae. Calyx globosus; sepala rotundata vel late ovata, 4-5 mm. longa, extus puberulenta, hyalina ad margine. Petala quattuor, rotundata, obtusa, pallide flava, 6 mm. longa, 5 mm. lata, glabra atque nitens, obscure lineata. Stamina sex ad decem, 2 mm. longa. Antherae clavato-oblongae, 1 mm. longae, filamentis liberis, erectis, plerumque minute tomentosis. Flores ovuliferi adhuc ignoti.

Type from "terrenos graniticos, sabana," of the Rio Guaviare, San Jose del Guaviare, 270 meters alt., Colombia, 12 November 1939, *J. Cuatrecasas* 7681 (us 1795153).

*Clusia myrsinoides* is a distinctive small-flowered species from a botanically little-known region of Colombia. It is related to *Clusia myriandra* (Benth.) P1. and Tr. of Pomeroon, British Guiana, and like that species, also known only from the staminate flowers, blooms during the fall months.

*Clusia chusqueae* sp. nov.

Dense-crowned small tree 7-10 m. high, the branchlets leafy, subterete, subglabrous; leaves close-set, petiolate, the petioles 4-7 mm. long, channelled, the blades spatulate-obovate to oblanceolate, cuneate or simply narrowed, rounded at the apex, coriaceous, narrowly revolute in drying, amphiglabrous, the nerves obscure above when fresh, more evident in drying, distinct but not prominent beneath, 8-10 cm. long, 3.5-4 cm. wide; raceme terminal, short, 6-9 cm. long, glabrous throughout, 5- to 9-flowered, the rachis more or less 4-angled or flattened; staminate flowers hemispherical or subglobbose, borne on stout pedicels about 5 mm. long, cream-colored, the calyculate bracts 2, deltoid to suborbicular, connate at the base, scarious-margined, 7-8 mm. long, the sepals 4, petaloid, rotund, or broader than long, 6-8 mm. long, erosulate, hyaline-margined; petals 4, orbicular, with a broad claw, 8-10 mm. long, 6-8 mm. wide; stamens very numerous, showy, about 1 cm. long, erect, the anthers linear, 8 mm. long, the filaments free, glabrous; pistillate flowers unknown; fruit "plum-like," globose, filled with abundant latex, 3.0-3.5 cm. in. diameter, thick-walled, the locules 4, each with several ovules; seeds ovoid, 6-7 mm. long; stigmas 4.

Arbor parva. Ramuli subtereti, subglabri. Folia approximata, petiolata, coriacea. Petiolus 4-7 mm. longus, caniculatus. Lamina spatulato-obovata ad oblanceolata, cuneata vel tandem angustiore ad basim, obtusa, amphiglabra, 8-10 cm. longa, 3.5-4 cm. lata; nervis supra prospectu inconspicuis, subitus distinctis sed non prominentibus. Racemi terminales, breves, 6-9 cm. longae; fibres staminiferae 4-5, pallide flavae. Pedicelli brevi, ca. 5 mm. longi, divaricati; bracteae duo, connatae atque conspicuae, deltoideae ad rotundatae, 7-8 mm. longae. Calyx globosus; sepala quattuor, petaloidea, hyalina, plus minusve rotundata, 4-5 mm. longa, glabra, erosulata. Petala quattuor, rotundata, 8-10 mm. longa, 6-8 mm. lata, glabra atque scariosa. Stamina numerosissima, speciosa, ca. 1 cm. longa, erecta. Antherae lineares, 8 mm. longae, filamentis liberis, glabris. Flores ovuliferi adhuc ignoti sed fructus crassus atque valde globosus, lacticiferus, loculis quattuor, cum stigmatibus sessilibus. Semina ovoidea, 6-7 mm. longa.

Type from paramillo along the ridge, Alto Capiro, above Sonson-Abejorral camino, Cordillera Central, Dept. Antioquia, ca. 2800 m. ele., Colombia, 26-28 May 1944, Joseph A. Ewan 15741 (uSNA; isotypes, COL, NO).

*Clusia chusqueae* is a handsome species growing among the thickets of *Chusquea* making up what the natives of Sonson call 'paramillo,' there being no true paramo in this part of Colombia. It is difficult to place *Clusia chusqueae* with confidence but it is evidently related to *C. palmicida* L. C. Rich. apud Pl. and Tr. of the Guianas. In *Clusia palmicida* the filaments are connate and the anthers equal the filaments; in *C. chusqueae*, the filaments are free, the anthers about three times the length of the filaments. Furthermore, in *Clusia palmicida* the light pink petals are 3 cm. or more long; in *C. chusqueae* the cream-colored petals are at the most 1 cm. long.

*Tovomita weddelliana* Pl. and Tr., Ann. Sci. Nat. ser. 4. Bot. 13:277. (*cf.* also DC. Monog. 8:206. 1893).

*Clusia elongata* Rusby, Bull. N. Y. Bot. Gard. 8:105. 1912.

Rusby's *Clusia elongata*, based on R. S. Williams 1553, from the vicinity of Santa Barbara, 1500 ft. ele., Bolivia, of which an isotype (US) has been examined, is unmistakably this *Tovomita weddelliana*. Planchon and Triana's species rests on Weddell's collection of 1851, from the Tipuani Valley, Prov. Larecaja, of northern Bolivia.

#### SOLANACEAE

*Acnistus ferruginea* (Sodiro and Dammer) Ewan, comb. nov.

*Dunalia ferruginea* Sodiro and Dammer, Fedde Repertor. 15:389. 1919.

Collected along the edge of the canyon of Rio Bogota below the Salto de Tequendama, Dept. Cundinamarca, Colombia, 27 February 1945, Joseph A. Ewan 16932 (uSNA, COL).

*Cestrum stuebelii* Hieron. apud Francey in Candollea 7:7. 1936.

L. Diels (1937, p. 139) provides Ecuadorian records for this *Cestrum* now reported for the first time from Colombia: thickets of bosque along Rio Tellez, along camino to Soledad, above Funes, Dept. Nariño, 1 December 1944, Joseph A. Ewan 16502 (uSNA).

*Solanum inopinum* sp. nov.

Tree up to 14 m. or more, the trunk 20-25 cm. in diameter, the bark yellowish or pale brown, shallowly fissured into plates ca. 1 cm. wide, beset now with scattered uncinate spines 5-7 mm. long now with short straight prickles only 2 mm. long; leaves large, petiolate, the petioles 3-4 cm. long, densely yellow-tomentose, the blades very shallowly sinuate, oval, inequilateral at the base, tip merely acute, heavily stellate-tomentose on both surfaces, the tomentum tardily deciduous, 25-27 cm. long, 16-18 cm. wide, the nerves distinct chiefly for being free from the surrounding dense tomentum; flowers unknown; fresh berry globose, ca. 7-8 cm. in diameter, resembling a Valencia orange, the surface tessellate, dark green, subglabrous, pedunculate, the peduncles stout, 3.0-3.5 cm. long, ca. 8 mm. in diameter, the calyx persistent in fruit, verrucose, pentagonal, the pericarp 5-8 mm. thick, carpels 4, each filled by the fleshy placenta, whitish when fresh cut, ovules very numerous.

Arbor ad 14 m. alta; truncus 20-25 cm. in diametro. Folia magna, petiolata, petiolae 3-4 cm. longae, dense flavo-tomentosae, laminae subsinuatae, ovales, inaequilaterales, vix acutae, valde stellato-tomentosae, 25-27 cm. longae, 16-18 cm. latae; nervis distinctis subtus tomentum. Flores adhuc ignoti. Fructus globosus, ca. 7-8 cm. in diametro, atro-viridus atque subglabrus, pedunculatus. Pedunculus firmus, 3.0-3.5 cm. longus, ca. 8 mm. in diametro, calycis persistentibus verrucosis, pentagonalibus. Pericarpus crassus. Loculi quattuor, placentis copiis atque ochroleucis. Semina immatura numerosissima.

*Solanum* is one of the most complex genera in the Andean flora (cf. Morton, 1944, p. 41) and it would seem very unwise to further complicate the history of the genus by naming another species on the basis of a single collection, for which the flowers are unknown. However, tree Solanums attaining a height of forty feet are indeed few, if detected, in Colombia, and a careful search in herbaria and the literature of the genus has failed to disclose such a species. *Solanum inopinum* comes from a little known region of Colombia where at different times Andre and Triana hurriedly botanized while traveling from Tuquerres to Barbacoas and return. In its fruit this *Solanum* recalls the well-known *Solanum quitoense* Lam., the "naranjillo" of the country folk, the source of the delicious "lulo" of southern Colombia and Ecuador (cf. Schultes, p. 44, where refs. are given), but the large fruits of *Solanum inopinum* are evidently inedible according to the *arreiro* of our party. *Solanum arboreum* H. and B. ex Dunal, described from a Venezuelan collection, is not certainly known to occur in Colombia though reported from that country (cf. Morton, p. 54); it is a tree species of about the same dimensions as *S. inopinum* but its leaves are glabrous and its fruits evidently unknown.

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